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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,448	07/25/2003	Chien-Min Sung	22101	3419
20551	7590	08/24/2005		
THORPE NORTH & WESTERN, LLP. 8180 SOUTH 700 EAST, SUITE 200 P.O. BOX 1219 SANDY, UT 84070				
			EXAMINER ELEY, TIMOTHY V	
			ART UNIT 3724	PAPER NUMBER

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/627,448

Applicant(s)

SUNG, CHIEN-MIN

Examiner

Timothy V. Eley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15 and 17-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/23/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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**DETAILED ACTION**

***Specification***

1. Applicant should note the disposition of Serial Number 10/109,531, which is not United States Patent Number 6,884,155.
2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

3. Claim 20 is objected to because "essentially" (line 3) is misspelled. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5-9, 11-13, 15, and 17-22 are, rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- "each side" (claim 5, line 4) lacks proper antecedent basis since applicant did not previously recite the sides of the blade.

Note, if applicant is referring to two sides of a blade, it is possible for a blade to have more than two sides. However,

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applicant did not define in the specification that the segments are brazed to more than two sides of a blade.

- "each matrix layer"(claim 9, line 4) lacks proper antecedent basis since it was not properly earlier referred to.

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Christensen(3,049,843).

- Christensen discloses a reciprocating frame saw blade comprising a blade member A having a "concave" cutting edge(including slots 12); and a plurality of superabrasive tool segments(14,15) brazed along the cutting edge of the blade member. See figures 1-4, and column 1, lines 12-22.
- Regarding claim 2, the blade member is steel. See column 2, line 37.

8. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Scott et al(4,920,947)

- Scott et al discloses a reciprocating frame saw blade comprising a blade member having a concave cutting edge; and a plurality of superabrasive tool segments(44) brazed along the cutting edge of

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the blade member. See figures 2,3, and 5; and column 1, lines 41-52, column 3, lines 33-49.

- Regarding claim 2, the blade member is steel. See column 3, line 36.
- Regarding claim 3, the blade member is a chain saw that is flexible, and the concave configuration of the cutting edge is a result of the flexibility.

9. Claims 1,2,4-7,9,10,17, and 20 are rejected under 35

U.S.C. 102(b) as being anticipated by Pratt(3,028,710).

- Pratt discloses a reciprocating frame saw blade comprising a blade member having a "concave" cutting edge(including slots 17); and a plurality of superabrasive tool segments(15) brazed along the cutting edge of the blade member. See figures 1-5; and column 1, lines 18-28, column 2, lines 49-end.
- Regarding claim 2, the blade member is steel. See column 2, lines 4-7.
- Regarding claim 5, the plurality of tool segments are each inherently brazed along a cutting edge and at least a portion of "each side" of the blade member in order to appropriately attach each segment. See figures 5 and 6 and column 2, lines 66-end.
- Regarding claim 6, the widths of the tool segments are substantially uniform.

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- Regarding claim 7, the widths of the tool segments may be substantially equal to the width of the of the blade member. See figure 6.
- Regarding claim 9, the tool segments each comprise a plurality of substrate layers arranged in a substantially parallel relationship, each layer having a plurality of superabrasive particles bonded thereto. See figures 2, and 4-6, and column 2, lines 40-48.
- Regarding claim 20, the plurality of substrate layers may comprise nickel, bronze, or tungsten carbide. See column 2, lines 52-55.

*Claim Rejections - 35 USC § 103*

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 8,12,13,18,19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pratt.

- Pratt is explained above.
- Pratt does not specifically disclose the widths of the plurality of superabrasive tool segments varying from one another, a porosity of at least about 10%, the widths of the substrates

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layers being less than about 1mm, nor the material of the substrates being copper.

- The exact porosity of the tool segments, the exact widths of the substrate layers and whether the widths of the tool segments vary from one another would have been obvious matters of design choices to one having ordinary skill in the art at the time the invention was made since clearly such would depend upon the desired usage of the blade and/or segments, and the exact type of material used to make the segments.
- To use copper as the material of the substrates would have been an obvious matter of design choice since Pratt discloses in column 2, lines 51-55 that any suitable matrix may be used and discloses common metallic matrices which are similar in use to copper(i.e. nickel).

12. Claims 11,15, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pratt in view of either Oliver(4,916,869) or Skeem et al(6,817,936).

- Pratt is explained above.
- Pratt does not disclose chemically bonding the superabrasive particles with the brazing alloy.
- Both Oliver and Skeem et al disclose chemically bonding superabrasive particles with a brazing alloy in order to provide for stronger attachment of the particles to a metallic matrix.

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See Oliver at column 4, lines 24-31. See Skeem et al at column 9, lines 5-14.

- Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the Pratt device by using a brazing alloy which chemically bonds the superabrasive particles as taught by either Oliver or Skeem et al, in order to provide for a stronger attachment of the particles in the metallic matrix.
- Regarding claim 15, in order for the superabrasive particles to each be chemically bonded, the brazing alloy much be provided as a solidified coating of molten braze alloy thereon.
- Regarding claim 22, the exact porosity of the tool segments would have been an obvious matter of design choice to one having ordinary skill in the art at the time the invention was made since clearly such would depend upon the desired usage of the blade and/or segments, and the exact type of material used to make the segments.

#### *Conclusion*

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- The cited prior art discloses abrasive tools having abrasive particles therein contained in a matrix.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy V. Eley

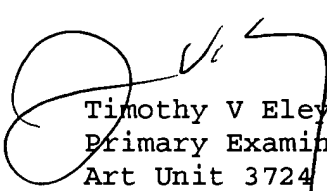


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whose telephone number is 571-272-4506. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N. Shoap can be reached on 571-272-4514. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Timothy V Eley  
Primary Examiner  
Art Unit 3724

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